Comparison of serological responses in cats vaccinated with two different FeLV vaccine preparations

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TO assess the potential of a commercial feline leukemia virus (FeLV) vaccine (Leukocell, Norden) and a candidate subunit tscm FeLV vaccine (Osterhaus and others 1985) to induce protective immunity in cats against FeLV infection under field conditions, the authors conducted a comparative trial in three groups of privately owned cats, kept under conventional conditions in single or multiple households. Two groups of animals were vaccinated three times either with Leukocell, or with the candidate tscm vaccine, both containing about the same amount of FeLV envelope glycoprotein (gp70). The third group was inoculated at the same intervals with a control preparation not containing FeLV antigen. Serological responses were measured with an enzyme-linked immunosorbent assay (ELISA), a membrane immunofluorescence test and in a virus neutralisation test before (day 0) and after vaccination (day 100). In none of the cats could FeLV antigen be demonstrated in an immunofluorescence test carried out on their blood smears before and after vaccination (Jarrett and others 1982).

In the group of cats with Leukocell (n = 47), 35 were seronegative in the ELISA (titre less than 30) and 12 seropositive (titre more than 30) before the start of the experiment. During the experiment, only five (14 per cent) of the 35 seronegative animals showed seroconversion in the ELISA, six (17 per cent) using the membrane immunofluorescence test and two (6 per cent) in the virus neutralisation test. Of the 12 seropositive animals in this group two (17 per cent) showed atitre rise using the ELISA, three (25 per cent) using membrane immunofluorescence and two (17 per cent) with virus neutralisation.

In the group of cats vaccinated with the candidate tscm subunit FeLV vaccine (n = 44), 35 were seronegative in the ELISA and nine seropositive before the start of the experiment. During the experiment 34 (97 per cent) of the 35 seronegative animals showed seroconversion in ELISA, 29 (83 per cent) in the membrane immunofluorescence test and 26 (71 per cent) using virus neutralisation. Of the nine seropositive animals in this group, seven (78 per cent) showed a titre rise in ELISA, eight (89 per cent) in membrane immunofluorescence and six (67 per cent) in virus neutralisation. In the group of cats inoculated with the control preparation (n = 46), 42 were seronegative in ELISA and four seropositive before the start of the experiment. During the experiment no seroconversions or titre rises were measured in any of the three tests in any of these animals.

It was not shown only that a much higher percentage of the cats vaccinated with the tscm preparation responded in all three tests, but also that their absolute antibody titres including virus neutralising titres proved considerably higher than those of the cats vaccinated with the other vaccine preparation.

References


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